

**Exner, Felix M. v.**

Studien über die Ausbreitung kalter Luft auf der Erdoberfläche. Wien. 1918. 53 p. figs. plates. 25 cm. (Akademie der Wissenschaften. Sitzungsberichte. Mathem.-naturw. Klasse. Abt. IIa, Bd. 127, H. 6.)

**Ficker, Heinrich.**

Veränderlichkeit des Luftdruckes und der Temperatur in Russland zwischen Eismeer und 37° Nordbreite. Wien. 1919. 41 p. illus. 24 cm. (Akademie der Wissenschaften. Sitzungsberichte. Mathem.-naturw. Klasse. Abt. IIa, Bd. 128, H. 9, 1919.)

**Great Britain. Meteorological office.**

New international code for meteorological messages. London. 1922. p. 65-84. 25 cm.

Particulars of meteorological reports issued by wireless telegraphy in Great Britain and the countries of Europe and North Africa. London. 1922. 84 p. 24 $\frac{1}{2}$  cm.

Wireless weather manual; being a guide to the reception and interpretation of weather reports and forecasts distributed by wireless telegraphy in Great Britain. London. 1922. 24 p. plates. 24 $\frac{1}{2}$  cm.

**India. Meteorological department.**

Memorandum regarding the probable amount of monsoon rainfall in 1922. Simla. 1922. 2 p. 34 cm.

**International council for the study of the sea.**

Bulletin hydrographique. Variations de la température de l'eau de surface de la mer du Nord pendant les années 1905-1914. Copenhague. 1922. v. 41 p. plates. 32 $\frac{1}{2}$  cm.

**Italy. Servizio idrografico.**

Osservazioni pluviometriche . . . v. 3. Bacini imbriferi della regione Veneta. Fasc. 2. Riassunto e carta corografica. Roma 1922. 44 p. 34 $\frac{1}{2}$  cm.

**Mansfield, George Rogers.**

Climate of southeastern Idaho. n. p. 1921. p. 75-92. illus. 26 $\frac{1}{2}$  cm. (Repr. Annals Association of American geographers, v. 11.)

**Marchi, Luigi de.**

Meteorologia generale. 3d ed. Milano. 1920. xix, 235 p. illus. charts. 15 $\frac{1}{2}$  cm.

**Mathias, E.**

Le régime de la pluie dans le Comté de Kent et la région française du Pas-de-Calais. Paris. 1921. 4 p. 24 cm. (Observatoire météorologique du Puy-de-Dôme.)

**Newnham, E. V.**

On the formation of thunderstorms over the British Isles in winter. London. 1922. p. 78-81. plates. 25 cm. (Professional notes no. 29.)

**Parma. Ufficio idrografico del Po.**

Terza pubblicazione. Parma. 1922. v. 183 p. plates. charts (part fold.) 34 cm. [Meteorology and hydrology, p. 25 fig.]

**Porsild, Morten P.**

Actinometrical observations from Greenland. København. 1911. p. 361-374. diagr. 27 $\frac{1}{2}$  cm. (Arbejder fra den Danske arkatiske station paa Disko. Nr. 4.) (Sætryk af Meddelelser om Grønland. 47.)

**Rempp, G., & Wagner, A.**

Meteorologische Terminbeobachtungen und Stundenwerte 1911-1912. Deutsches geophysikalisches Observatorium Spitzbergen, Adventbai. [Wien. 1921.] 38 p. 30 $\frac{1}{2}$  cm. (Jahrbücher der Zentralanstalt für Meteorologie und Geodynamik. Amtliche Veröffentlichung. Jahrg. 1917. Neue Folge; Bd. 54.)

**Sifontes, Ernesto.**

Meteorología tropical. Curiosas aproximaciones. Los humos alrededor de ciudad Bolívar. Bolívar. 1922. 1 p. [Newspaper cutting.]

**Smosarski, W.**

Badanie teoretyczne wahań temperatury na powierzchni ziemi. Recherches théoriques sur les variations de la température à la surface de la terre. Poznań. 1922. 59 p. 25 cm. [Résumé in French.] (Prac komisji matematyczno-przyrodniczej tow. przyjaciół nauk w Poznaniu. Seria D. T. 1. Z. 3.)

Spostrzeżenia zmrokowe. Observations du crépuscule. Poznań. 1921. 35 p. figs. 25 cm. [Résumé in French.] (Prac komisji matematyczno-przyrodniczej tow. przyjaciół nauk w Poznaniu. Seria D. T. 1. Z. 2.)

**Stewart, C.**

Distribution of rainfall over the Orange river catchment. (a) The Vaal river. p. 87-96. 25 cm. (South African irrigation dept. magazine. v. 1. no. 3. April, 1922.)

**Tsingtau meteorological observatory.**

Results of the meteorological observations made at Tsingtau for the lustrum, 1916-1920. [Tsingtau.] 1921. 40 p. 23 cm.

**Vladivostok naval observatory.**

Handbook for sailors for matters dealt with by the Vladivostok naval observatory. Vladivostok. 1922. 36 p. illus. chart. 20 cm. [Title also in Russian. Text in English and Russian.]

**RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.**

C. F. TALMAN, Meteorologist in Charge of Library.

The following titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

*American meteorological society. Bulletin. Worcester, Mass. v. 5. July-Aug., 1922.*

Brooks, C. F. Temperature inversions in brick buildings on a hot day. p. 111-112.

Clough, H. W. The interdiurnal variations in the temperatures at the surface and in the free air. p. 114-115. [Abstract.]

Clough, H. W. The sequence of the interdiurnal changes in wind direction, pressure, and temperature in the free air. p. 114. [Abstract.]

Ledyard, Edgar M. Some values of weather reports in practical agricultural work. p. 99-105.

Marvin, C. F. Solar and terrestrial relations and periodicities in meteorology. p. 115-116. [Abstract.]

Visher, Stephen S. Hail in the Tropics. p. 117-118.

*American philosophical society. Proceedings. Philadelphia. v. 61. no. 1. 1922.*

Berry, Edward W. A possible explanation of Upper Eocene climates. p. 1-14.

*Astronomie. Paris. 36 année. Juillet 1922.*

Flammarion, C., & Quéniasset, F. Les incohérences de la température. p. 304-306. [Temperature of May & June, 1922.]

Moye, Marcel. Une remarquable chute de grêle à Montpellier. p. 315.

*Ciel et terre. Bruxelles. 36 année. Mai-juillet, 1922.*

Jaumotte, J. La prévision du temps. p. 188-193.

*Ecology. Brooklyn, N. Y. v. 3. July, 1922.*

Novakovsky, Stanislaus. The probable effect of the climate of the Russian Far East on human life and activity. p. 181-201.

*Geographische Zeitschrift. Leipzig. 28. Jahrg. 7/8. H. 1922.*

Heim, Fritz. Das Eis der Antarktis und der subantarktischen Meere. (Nach E. v. Drygalski.) p. 265-272.

*Meteorologische Zeitschrift. Braunschweig. Bd. 39. Aug., 1922.*

Budig, W. Historisches zum Lenard-Effekt. p. 248-250.

Fricke, H. Die tägliche Doppelschwingung des Luftdrucks als Wirkung der Schwerkraft. p. 247-248.

Georgii, Walter. Ein bemerkenswerter Kälteeinbruch. p. 225-229.

Gockel, Albert. Die Herkunft der Niederschläge und ihre Radioaktivität. p. 252-253.

Hanzlik, Stanislav. Temperatur und Windgeschwindigkeitsänderungen in den warmen und kalten Zyklogen. p. 232-236.

Köppen, W. Die Regenmenge an der Trockengrenze. p. 242-244.

Loewe, Fritz. Werte des mittleren Niederschlags für Afrika. p. 244-245.

Macay, E. Zur Theorie des Heiligen Scheins. p. 229-231.

Rubinstein, E. Haben unsere vieljährigen Mittelwerte der Temperatur einen physikalischen Sinn? p. 236-239.

Schmauss, A. Die Temperaturwirkung von Niederschlägen. p. 241-242.

*Nature. London. v. 110. 1922.*

Stevens, Catharine O. Telescopic observation of atmospheric turbulence. p. 280. (Aug. 26.)

Schuster, Arthur. The green flash at sunset. p. 370-371. (Sept. 16.) [Review of book by M. E. Mulder.]

*Nature. Paris. 50 année. Sept., 1922.*

B., A. Le chant des fils télégraphiques. p. 170-171. [Describes investigations of L. Respighi.]

Idrac, P. L'utilisation pratique du vol à voile. p. 171-174.

*Naturwissenschaften. Berlin. 10. Jahrg. 13. Juli, 1922.*  
 Kritzinger. Beiträge zur Aufsuchung kosmischer Grundlagen von  
 Klimaperioden. p. 614. [Abstract.]  
 Wegener, Kurt. Aerologische Flugzeugaufstiege in Adlershof.  
 p. 615. [Abstract.]

*Revue scientifique. Paris. 60 année. 9 septembre, 1922.*  
 Rouch, J. Le vent en altitude à Bayonne. p. 594-595.

*Science. N. Y. v. 56. Sept. 15, 1922.*  
 Wanzer, H. M. Photoperiodism of wheat; a determining factor in  
 acclimatization. p. 313-315.

*Scientific American. N. Y. v. 127. October, 1922.*  
 Luckiesh, M. The ultraviolet in sunlight. p. 258-259.  
 New tasks for the weatherman. p. 240.

*Umschau. Frankfurt. 26. Jahrg. 9 Juli, 1922.*  
 Polis, [Peter]. Die Meteorologie in den Kur- und Badeorten.  
 p. 441-443.

*Wetter. Berlin. 39. Jahrg. Juli/August, 1922.*  
 Fischer, Rudolf. Sehr grosse Hitze im letzten Maidritt, 1922.  
 p. 127-128.

Fischer, Rudolf. Der Wärmewelle im Nachwinter, Frühling und  
 Vorsommer folgt meist eine Kältewelle. p. 124-126.

Gockel, A. Die Fussnerven als Wetterpropheten. p. 128.

Knoch, K. Die Funk-Wetterstation auf Jan Mayen. p. 121-124.

Kopfmüller, A. Der Land- und Seewind am Bodensee. p. 97-

107.

*Zeitschrift für Gletscherkunde. Leipzig. Bd. 12. Mai, 1922.*

Köppen, W. Das System in den Bodenbewegungen und Klima-  
 wechseln des Quartärs im Ostseebecken. p. 97-123.

## SOLAR OBSERVATIONS.

### SOLAR AND SKY RADIATION MEASUREMENTS DURING AUGUST, 1922.

By HERBERT H. KIMBALL, in Charge, Solar Radiation Investigations.

For a description of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to this REVIEW for April, 1920, 48:225.

From Table 1 it is seen that direct solar radiation intensities averaged slightly above the normal for August at Washington and very close to normal at Madison and Lincoln. A maximum intensity of 1.40 gram-calories per minute per square centimeter of normal surface measured at Washington at noon on August 22 is within 2 per cent of the August maximum for that station.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged close to the August normal at both Washington and Madison, although at Washington there was a deficiency in every week except one.

Skylight polarization measurements made on eight days at Washington give a mean of 57 per cent with a maximum of 70 per cent on the 22d. These are above average values for August at Washington. At Madison, measurements made on eight days give a mean of 55 per cent with a maximum of 72 per cent on the 25th. The mean is below the average polarization, and the maximum slightly above the average maximum, for August at Madison.

TABLE 1.—Solar radiation intensities during August, 1922.

[Gram-calories per minute per square centimeter of normal surface.]

Washington, D. C.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th merid-ian time.	Air mass.									
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
August 2.....	m.m.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	m.m.
14. 10.....	14. 10	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	14. 10
4.....	12.68	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	12.68
5.....	14.60	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	14.60
9.....	10.21	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	10.21
16.....	18.59	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	18.59
17.....	17.37	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	17.37
18.....	17.37	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	17.37
21.....	7.57	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	7.57
22.....	11.38	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	11.38
23.....	12.68	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	12.68
29.....	13.13	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	13.13
Means.....		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Departures.....		+0.07	+0.15	+0.02	+0.03	+0.04	+0.20	+0.16	+0.18	+0.13	+0.05

Madison, Wis.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th merid-ian time.	Air mass.									
e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.	e.
August 8.....	m.m.	7.57	cal.	m.m.							
9.....	9.14	.....	.....	.....	1.04	1.04	1.04	1.04	1.04	1.04	12.24
10.....	9.33	.....	.....	.....	.....	.....	1.29	0.96	.....	.....	11.38
15.....	14.10	.....	.....	.....	.....	0.80	.....	.....	.....	.....	15.65
18.....	13.61	.....	.....	.....	.....	1.01	.....	1.13	.....	.....	13.13
19.....	12.24	.....	.....	.....	.....	1.10	1.21	1.44	1.19	.....	13.61
25.....	9.14	.....	.....	.....	.....	.....	1.42	.....	.....	.....	7.87
26.....	8.81	.....	.....	.....	.....	1.03	1.06	1.38	1.09	.....	8.81
Means.....											
Departures.....		-0.12	-0.02	+0.08	+0.06						

Lincoln, Nebr.

Date.	Lincoln, Nebr.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th merid-ian time.	Air mass.									
e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.	e.
August 8.....	10.97	.....	.....	.....	.....	0.99	1.28	.....	.....	.....	9.83
10.....	12.68	.....	0.62	0.76	0.98	1.29	.....	.....	.....	.....	13.13
11.....	14.10	.....	.....	.....	.....	1.20	0.93	0.72	.....	.....	12.68
14.....	13.61	.....	.....	.....	.....	0.97	1.25	.....	.....	.....	13.13
15.....	13.61	.....	0.73	0.87	1.03	1.29	.....	.....	.....	.....	15.65
16.....	16.79	.....	0.75	0.90	1.00	1.31	.....	.....	.....	.....	15.11
17.....	12.68	.....	0.78	0.88	1.06	1.26	.....	.....	.....	.....	14.10
19.....	14.10	.....	0.78	0.93	1.14	1.37	1.13	0.91	0.70	0.69	13.61
23.....	14.10	.....	0.84	0.98	1.17	1.34	1.04	.....	.....	.....	14.10
24.....	15.11	0.80	0.88	1.03	1.22	.....	.....	.....	.....	.....	10.21
25.....	9.47	.....	.....	1.06	1.24	1.41	1.12	0.88	.....	.....	6.02
26.....	9.47	.....	.....	.....	.....	1.31	1.07	0.88	0.72	0.61	10.97
30.....	16.20	.....	.....	.....	.....	0.94	0.74	0.61	.....	.....	16.79
31.....	16.79	.....	.....	.....	.....	1.03	0.83	0.74	0.59	0.59	16.79
Means.....		(0.86)	0.77	0.93	1.09	1.30	1.04	0.83	0.72	0.63	.....
Departures.....		-0.09	-0.02	+0.04	+0.02	+0.02	-0.04	-0.06	-0.03	-0.05	.....

\* Extrapolated.

TABLE 2.—Solar and sky radiation received on a horizontal surface.

Week be-ginning	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Wash-ing-ton.	Mad-ison.	Lin-col-n.	Wash-ing-ton.	Mad-ison.	Lin-col-n.	Wash-ing-ton.	Mad-ison.	Lin-col-n.
	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
July 30.....	470	513	.....	-2	+37	.....	-3874	-2394	.....
Aug. 6.....	415	433	.....	-46	-27	.....	-4193	-2480	.....
13.....	439	505	.....	-2	+59	.....	-4209	-2065	.....
20.....	529	371	.....	+109	-54	.....	-3448	-2444	.....
27.....	346	447	.....	-62	+43	.....	-3879	-2141	.....

### MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE.

NOTE.—Owing to delay in the receipt of the data from South America, the Calama report will be published in a later issue of the REVIEW.—EDITOR.